

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004580**Date Inspected:** 10-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Lvliqing and Hu Wei Qing**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and SAS Tower Fabrication**Summary of Items Observed:**

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

**Bay 7: OBG - Floor Beam Sub Assembly**

This QA Inspector randomly observed ZPMC welder ID #044774 and ID #066687 utilizing the FCAW Process in the 2G (Hor. Groove) Position with WPS-B-T-2232-Tc-U4b-F and a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic to weld fill pass on 200mm stiffener end to web plate of FB019-003-067 and FB019-003-060. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring preheat and weld parameters.

FCAW(2F) fillet welding on flange to web plate FB028-003-121, FB028-003-106/107 and FB019-003-053 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H following WPS-B-T-2132-3 this QA observed. ZPMC welder, Liu Kaige ID #044830 and Chen Chuan Zong were seen performing the task. Tack/fit-up of various stiffeners to web plate on floor beam FB028-008 using TL-508 electrode was also observed.

**Bay 8: Tower Diaphragm**

This QA Inspector randomly observed ZPMC welder ID number 045240, ID #045203, ID #202654 and ID

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#048696 utilizing the FCAW Process in the 3G (Vertical Groove) Position with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic with ZPMC WPS WPS-B-T-2233-B-U3-F, to weld fill pass on groove (bent heavy plate) splice butt joint on Tower Diaphragm Flange Sub-Assembly WSD1-SA421-11A and 7A, NSD1-SA359-8A and NSD1-SA362-8A respectively. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

This QA observed ZPMC welders ID #066413 and ID #067656 SMAW(2G) PJP welding fill pass on 75mm web plate to (bottom) tower double diaphragm SSD1-SA244B/B weld joints 5 and 6. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode following WPS-B-T-3312-Tc-P5. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

The QA Inspector randomly observed ZPMC Welders ID #0379978, ID #067081 and ID #066416 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 3G (Vertical Groove) Position with Excalibur E9018M H4R, 4.8mm diameter electrode following ZPMC WPS WPS-B-T-3313-Tc-P5 to weld tower double diaphragm PJP fill pass on 75mm thick web plate to 60mm thick stiffener plate tee joint ESD1-SA414A/B weld joints 4, 5 and 7. The QA Inspector randomly observed ZPMC CWI Lvliqing monitoring weld parameters.

Heat straightening was also observed on 75mm thick tower diaphragm plate WSD1-SA398 weld joints 8A/B, 7A/B, 5A/B, 9A/B, 10A/B and 4A/B due to welding distortion. Natural gas was used with heating temperature of less than 650 degree C with the aid of 50Ton hydraulic jack and following procedure HSR1(T)-5457.

### Summary of Conversations:

No significant conversation occurred today.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Cuellar, Robert
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QA Reviewer
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